

# NOAA Earth Information System Before HIWPP

## Visualization

- Basic Viewer built on Unity Game Engine
- Pull in data from other sources
- Single Sphere

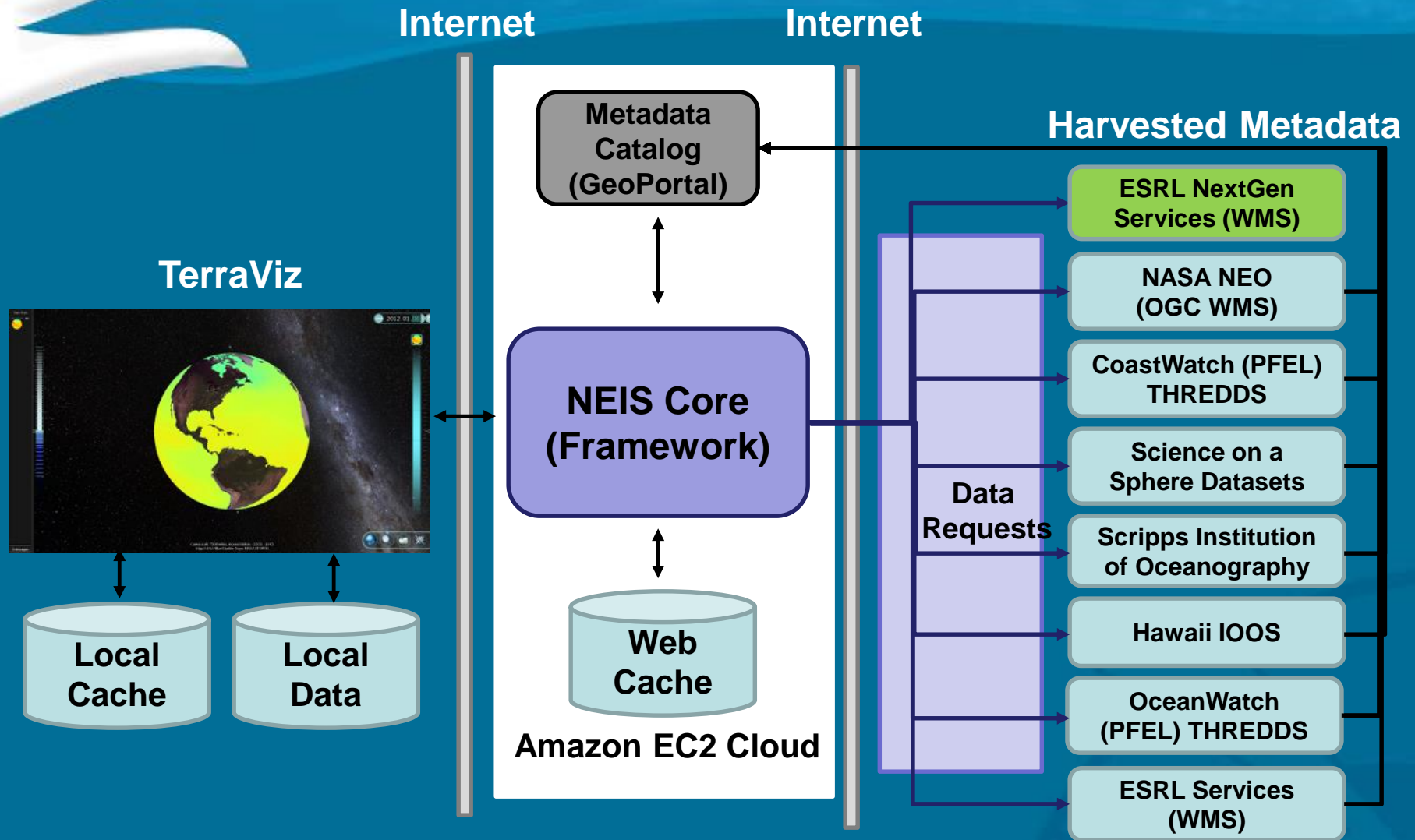
## Services

- Harvested Metadata from multiple sources
- Proxy for common data requests
- Limited one off support for FIM Native Grid

Discoverable and Interoperable Data were main focus

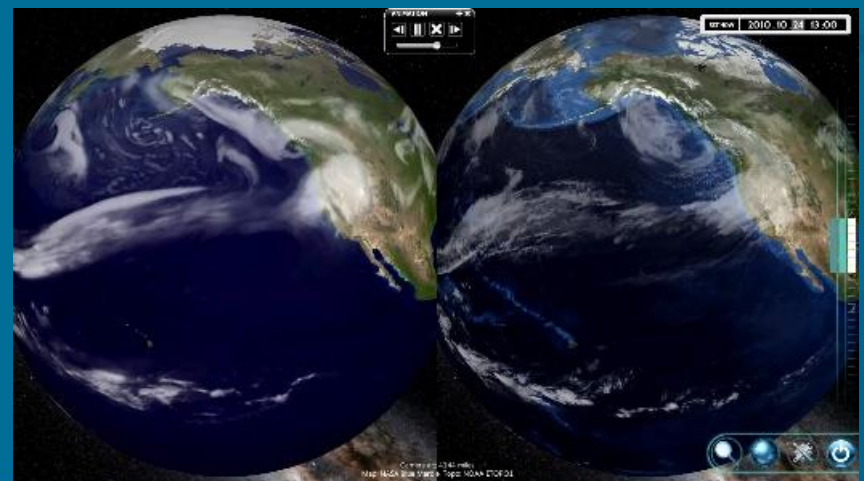
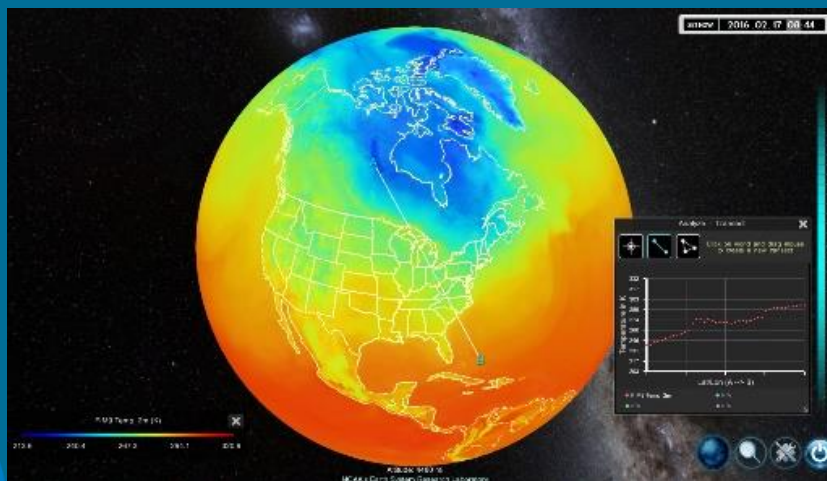


# Pre-HIWPP Architecture



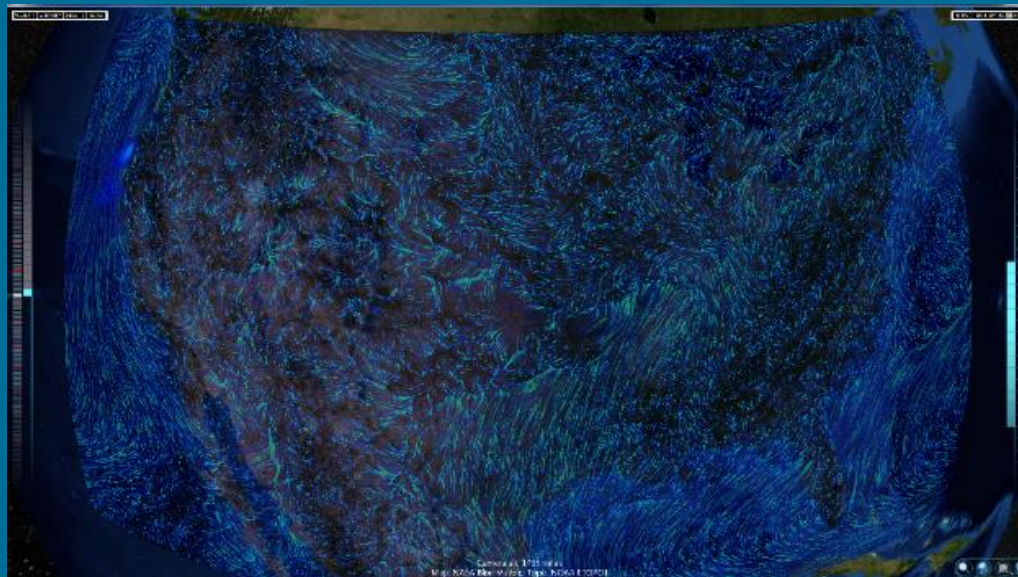
## Visualization enhancements

- Side By Side Spheres for Visual Comparison – up to 4
- Greatly improved local data capability
- Tiled data
- Analysis tools
  - Sampling
  - Transect
- Annotation Capabilities



## Visualization enhancements continued...

- New Visualization types including contours, wind barbs, particles
- Custom color palettes
- Point Data
- Custom Algorithms
- Improved performance on lower end systems

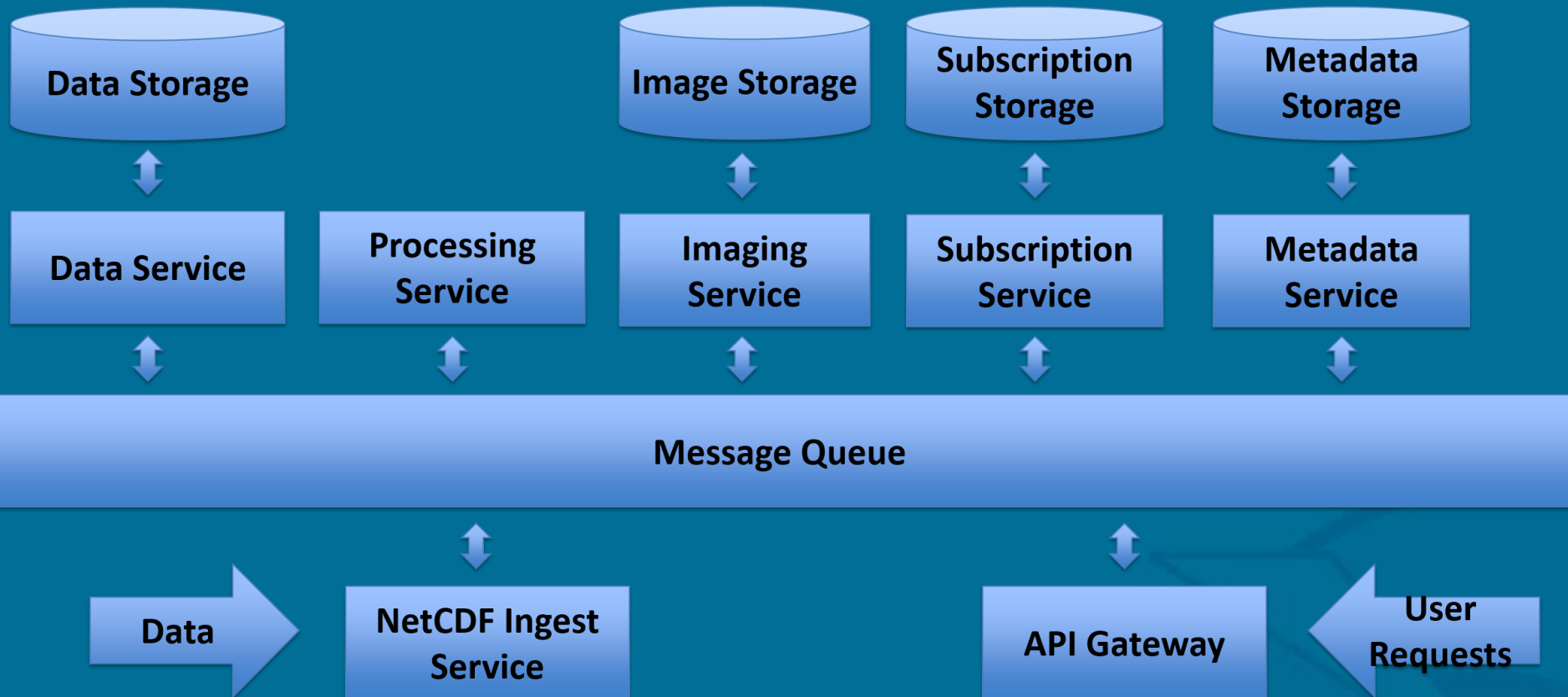


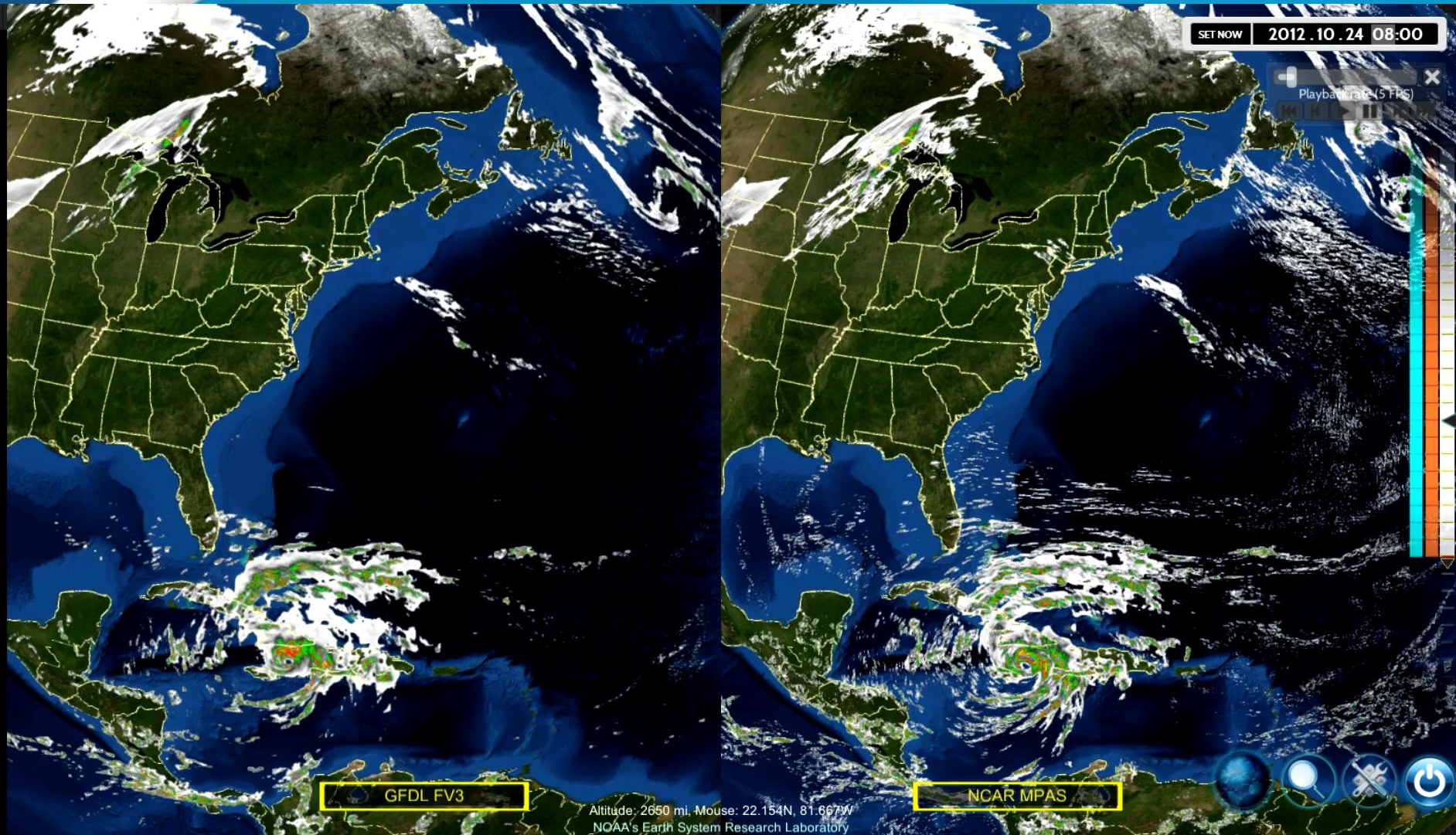
## Server Side Enhancements

- High Performance data ingest and delivery processing multiple Terabytes daily
- Grid, Imagery, and Point data ingest
- Advancement in server side GPU techniques for algorithms and compression.
- Advancements in Micro Service technology to improve agility, stability, and performance
- Monitoring and automatic problem resolution.



# HIWPP Architecture





## **SOSx – Science on a Sphere Explorer (SOSx)**

**NEIS/TerraViz heavily used for scientific presentations at NOAA booth at AMS and AGU for scientific presentations.**

**Continued research with NESDIS VIIRS team for data visualization**

**Raytheon interested in Technology for DOD applications**





# Test Program Lessons Learned

- Initial Concept targeted “Trusted User” Program (Limited Users)
  - High performance computers/Network
- Morphed into open data initiative (Anyone and everyone)
  - Limited resources
- Limited Feedback from users for feature requests, improvements, or general comments
- No room for error

